Checklist for Problem Solving

Checklists can help you keep track of your work. Use the following checklist to make sure you complete the task for each activity. If you have access to a printer, you may want to print the checklist for reference as you work through the activities. Ask your teacher for help if you have any questions about the checklist.

Activity 1: Thinking Skills
Task: Problem Analysis
☐ Read a news article about a complex problem
☐ Open a new word processing document and type your name, date, and a title
☐ Analyze the problem using critical thinking skills, by addressing the following questions:
  ☐ What is the *problem,* and why is it important to solve?
  ☐ What *information* could help you understand the causes of the problem?
  ☐ What *alternatives* could be available to address the causes of the problem?
  ☐ How could you devise a *plan* to solve the problem based on these alternatives?
  ☐ How could a plan help you implement a successful *solution* to the problem?
☐ Check the spelling and grammar of your analysis
☐ Save your document

Activity 2: Statistical Data
Task: Statistical Analysis
☐ Open a new word processing document and type your name, date, and a title
☐ Select a dataset with information on a problem that interests you
☐ Analyze the statistics, using critical thinking skills to address the following questions:
  ☐ What *problem* could this statistical data help solve?
  ☐ What *information* from this data could help explain the problem's causes?
  ☐ What are some *alternatives* that could address the causes of the problem?
  ☐ How could you use this data to devise a *plan* to solve the problem?
☐ How could this data help implement a *solution* to the problem?
☐ Check the spelling and grammar of your analysis
☐ Save your document

Activity 3: Problem Definition
Task: Problem Definition
☐ Choose a topic that has an interesting and important problem
☐ Open a new word processing document and type your name, date, and a title
☐ Define the problem, using the following four steps:
  ☐ Make a list of issues by brainstorming
  ☐ Evaluate the issues and choose one issue
  ☐ Narrow the focus of your issue to a specific problem
  ☐ Find sources to gather enough information about the problem
☐ Write questions to guide your research, and address the following considerations:
  ☐ What information do you need to have to solve the problem?
  ☐ What kinds of research questions will provide the information you need?
  ☐ What are some different points of view about the problem?
  ☐ What kinds of questions will help you understand the various points of view?
☐ Check the spelling and grammar of your document
☐ Save your document

Activity 4: Information Gathering

Task: Notes
- Open a new word processing document and type your name, date, and a title
- Find credible sources on your topic
- Take notes on your topic to answer your research questions, using a variety of note-taking strategies, such as:
  - Quote
  - Paraphrase
  - Summary
  - Facts and data
  - Original ideas
- When taking notes, be sure to:
  - Record the source of each note
  - Use quotation marks when copying exact words
  - Double-check that you paraphrased or summarized adequately
  - Quote short phrases or sentences in a paraphrase or summary, if necessary
- Save your document

Activity 5: Solution Alternatives

Task: Graphic Organizer
- Open a new word processing document and type your name, date, and a title
- Choose a graphic organizer to represent your solution alternatives, such as:
  - Fishbone (cause-and-effect relationships)
  - Interaction outline (cause-and-effect relationships)
  - Clustering diagram, concept map, web (classify and divide)
  - Compare-and-contrast organizer (compare and contrast)
  - Venn diagram (compare and contrast)
  - Spider map (definitions)
  - Problem-solution organizer (process)
  - Cycle organizer (process)
- Create a graphic organizer to represent alternatives to solve your problem
- Save your document